

BEFORE
THE PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA

DOCKET NO. 2019-224-E
DOCKET NO. 2019-225-E

In the Matter of:

South Carolina Energy Freedom Act)	DUKE ENERGY CAROLINAS,
(House Bill 3659) Proceeding Related to)	LLC'S AND DUKE ENERGY
S.C. Code Ann. Section 58-37-40 and)	PROGRESS, LLC'S SECOND SET
Integrated Resource Plans for Duke)	OF REQUESTS FOR PRODUCTION
Energy Carolinas, LLC and Duke Energy)	OF DOCUMENTS AND
Progress, LLC)	INTERROGATORIES TO VOTE
)	SOLAR

Duke Energy Carolinas, LLC (“DEC”) and Duke Energy Progress, LLC (“DEP”) (together, “Duke Energy” or the “Companies”), by and through their legal counsel, pursuant to Rule 103-833(C) of the Rules of Practice and Procedure of the Public Service Commission of South Carolina, hereby serve Vote Solar (“Vote Solar”) with the following Second Set of Requests for Production and Interrogatories to be answered under oath on or before twenty (20) days from the date of service.

Further, please take notice that these Requests for Production and Interrogatories are continuing in nature until the date of the hearing, and that any information or responsive materials identified after your responses have been served upon the undersigned counsel should be provided via supplemental discovery responses as soon as possible after such identification.

INSTRUCTIONS

1. Please produce the requested documents as they are kept in the usual course of business or to organize and label them to correspond with the categories in the Request. Documents attached to each other should not be separated.

2. In producing Documents, furnish all documents known or available to you, regardless of whether such documents are possessed directly by you or your agents, employees, representatives, investigators, or by your attorneys. All requests for Documents specifically request documents of Vote Solar as well as agents or consultants that Vote Solar has retained to provide expert testimony in this proceeding.

3. If any document otherwise responsive to any Request was, but is no longer, in your possession, subject to your control or in existence, identify each document by listing its author(s) and addressee(s), date, subject matter, whether the document(s) or copies are still in existence (and if so, their locations and the custodians), as well as whether the document is missing or lost, has been destroyed, has been transferred voluntarily to others, or has been otherwise disposed of. In each instance, explain the circumstances surrounding such disposition and identify the person(s) directing or authorizing its destruction or transfer, and the date(s) of such direction or authorization.

4. If a privilege or objection as to any Request is claimed, identify with specificity the matter as to which the privilege or objection is claimed, the nature of the privilege or objection, and the legal and factual basis for each such claim, and provide a complete description of the information or document being withheld.

5. Unless otherwise stated, the relevant time period for these Requests is from January 1, 2018, until the present.

6. Each Request shall be reproduced at the beginning of the response thereto.
7. Please provide copies of the information responsive to each Request in native electronic working format with all data and formulas intact.
8. Please provide responses to the following data requests electronically. To the extent this is impracticable, the responses, including any responsive Documents, should be provided at the offices of Robinson, Gray, Stepp & Laffitte, LLC, 1310 Gadsden Street, Columbia, South Carolina 29201, or some mutually convenient location otherwise agreed to by the parties.

DEFINITIONS

1. **“Commission”** means the Public Service Commission of South Carolina.
2. **“Communication”** means the transmittal of information in the form of facts, ideas, Documents, inquiries, or otherwise, including every discussion, conversation, conference, or telephone call.
3. **“You”** and **“your”** means Vote Solar, Vote Solar’s witness(es) in this proceeding, including, but not limited to Tyler Fitch, and all of its members, agents, representatives and attorneys.
4. **“Dockets”** means Commission Docket Nos. 2019-224-E & 2019-225-E.
5. The term **“document”** is to be construed as broadly as permissible under Rule 34 of the South Carolina Rules of Civil Procedure and includes, but is not limited to, any printed, typewritten, handwritten or otherwise recorded information of whatever character, including, but not limited to, letters, memoranda, notes, diaries, reports, records, calendars, charts, audio and/or video tapes or discs, and photographs; computer programs or disks; electronic media records, however recorded and maintained, including, but not limited to, electronic mail, voicemail messages, digital photographs and electronically

scanned records of any type; recorded observations, statements, conversations or formal affidavits. Any carbon or photocopy of any such materials upon which notations have been made and all drafts are also included.

6. **“Person”** means any natural person or any business, legal, or governmental entity or association.

7. The terms **“related to”** and **“relating to”** or any variation thereof shall be construed to include refer to, summarize, reflect, constitute, contain, embody, mention, show, comprise, evidence, discuss, describe, comment on, concerning, regarding, eluding to, pertaining to, probative of, in connection with, dealing with, in respect of, about, involved, identifying or proving.

8. **“Identify,”** when referring to a Person, means to give, to the extent known, the Person’s full name, present or last known address, and when referring to a natural Person, additionally, the present or last known place of employment.

9. **“Identify,”** when referring to Documents, means to give, to the extent known, the (i) type of Document; (ii) general subject matter; (iii) date of the Document; and (iv) authors addressees and recipients.

10. **“Identify,”** when referring to an oral Communication, means to give, to the extent known, the identity of the speaker and of each Person who was present when the Communication was spoken, and the substance, date, and place of such Communication.

11. **“Integrated Resource Plans” or “IRPs”** refers to DEC’s and DEP’s respective integrated resource plans filed with the Public Service Commission of South Carolina in the Dockets on September 1, 2020.

INTERROGATORIES

Testimony of Tyler Fitch

1-1. Referring Mr. Fitch's testimony beginning at Page 11, Line 16, citing a Yale study for the proposition that "[i]n a representative survey of American adults, 72 percent supported transitioning utilities to 100% clean energy by 2050, and 66 percent supported electric utilities meeting that standard by 2035[,] please state, to Mr. Fitch's knowledge, any and all background information provided to survey respondents in advance of answering these questions, and state whether survey respondents were given information regarding (i) the cost to customers of transitioning to "clean" energy; and (ii) the technologies that were included in "clean energy."

ANSWER:

1-2. Recognize Mr. Fitch's testimony beginning at Page 20, Line 5 admitting that "a robust review of climate-related risks on the Companies' assets and operations would require substantial analytical and personnel resources and access to information and data that is private and/or confidential to the Companies[,] please explain how Mr. Fitch's purported assessment of climate-related risks could be useful or instructive to the Commission as it considers the Companies' IRP.

ANSWER:

1-3. Referring to Mr. Fitch's testimony beginning at Page 26, Line 13 regarding "committed" carbon emissions, please state Mr. Fitch's understanding of the compounding effect of carbon emissions over time, including by stating his position on the discount rate, if any, that a utility should place on carbon emissions over time.

ANSWER:

1-4. Referring to Mr. Fitch's testimony beginning at Page 43, Line 9 that a joint study by scientists at Carnegie Mellon University and the University of Michigan found that "'compounding climate-change impacts could result in a 35% increase in installed capacity by 2050' due to changes to demand and impacts to efficiency of thermal plants[,]" please:

- a. Briefly summarize how the study incorporated the physical impact of climate change into the capacity expansion modeling and how that impact existing resources and potential new resources for selection;
- b. Explain Mr. Fitch's understanding of the impact of climate-change impacts on renewable resources and battery energy storage;
- c. Explain Mr. Fitch's understanding on the impact of climate-change impacts on renewable resources and battery energy storage; and
- d. Explain Mr. Fitch's understanding of whether the impact of installed capacity increase is inclusive of installed capacity of all resources including additional renewable and energy storage resources.

ANSWER:

1-5. Referring to Mr. Fitch's testimony beginning at Page 44, Line 17 that "Climate sensitivities were not included in the Companies transmission planning[,]" please explain Mr. Fitch's position with respect to how the Companies should include climate

sensitivities into transmission planning as part of their IRP.

ANSWER:

1-6. Referring to Mr. Fitch's testimony beginning at Page 47, Figure 4-1, please provide the inflation rates, if any, used to prepare Figure 4-1.

ANSWER:

1-7. Referring to Mr. Fitch's recommendation beginning at Page 49, Line 20 of his testimony that the "Commission direct the Company to use the US EIA AEO carbon pricing sensitivities (\$15, \$25, and \$35 in 2021, escalating at 5 percent per year) in its [sic] integrated resource plans[.]" please explain the reasoning behind this recommendation and state the carbon reductions, if any, that these prices would incentivize by 2030 and 2050.

ANSWER:

1-8. Referring to Mr. Fitch's testimony beginning at Page 49, Line 7 that "[t]he Commission found problems with Dominion's carbon pricing scenarios of \$0 and \$25/ton, and that collectively with problems with gas pricing and future load, the current production cost modeling was 'unreliable[.]'" please provide the year, if known, that Dominion adopted the \$25/ton allowance pricing.

ANSWER:

1-9. Referring to Mr. Fitch's testimony beginning at Page 50, Line 7 regarding distributed energy resources ("DERs"), please state whether, to Mr. Fitch's knowledge, the

use of DERs pose any potential for negative impacts to reliability either to the distribution system or to the transmission system.

ANSWER:

1-10. Referring to Mr. Fitch's testimony beginning at Page 50, Line 19 that "Southern California Edison signed a contract Sunrun [sic] to utilize 300 distributed solar-plus-storage installations as a 'virtual power plant' to provide on-demand power to the grid[,] please state whether, to Mr. Fitch's knowledge, there is any penalty to the Sunrun virtual power plant for not providing on-demand power when called upon to do so.

ANSWER:

1-11. Referring to Mr. Fitch's testimony beginning at Page 51, Line 11 that "[M]odeling from Vibrant Clean Energy using software that simultaneously models the bulk energy system and the distribution system found that decarbonizing the grid using DERs would be cheaper business-as-usual operations, and that savings could be as much as \$473 billion across the country[,]" please:

- a. Provide any savings forecast that is specific to the Companies, South Carolina, the Carolinas, and/or the Southeast generally;
- b. State the time horizon over which the purported savings are measured; and
- c. State whether the figure is a present, future, or nominal value.

ANSWER:

1-12. Referring to Mr. Fitch's testimony beginning at Page 54, Line 10 that "[t]he Companies have declined to pursue beneficial regional coordination strategies, such as joint capacity planning or regional coordination beyond an energy exchange market[,]" please explain the evidence upon which Mr. Fitch bases this statement.

ANSWER:

1-13. Referring to Mr. Fitch's testimony beginning at Page 55, Line 10 that "[t]he Companies are not able to procure firm capacity for resource adequacy purposes from each other, nor from their neighbors[,]" please explain the evidence upon which Mr. Fitch bases this statement.

ANSWER:

1-14. Referring to Mr. Fitch's testimony beginning at Page 60, Line 21 that "[a] range of transmission costs should have been provided in present-value revenue requirement ("PVRR") comparisons across scenarios[,]" please describe in detail the methodology by which Mr. Fitch contends a range of transmission costs should be developed.

ANSWER:

1-15. Referring to Mr. Fitch's recommendation beginning at Page 61, Line 9 that the "Companies should increase the upper solar interconnection limit[,]" please state whether Mr. Fitch's recommendation is targeted to the Companies base or high integration

limits, and state the precise limits, if any, that Mr. Fitch contends the Companies should adopt.

ANSWER:

1-16. Referring to Mr. Fitch's testimony beginning at Page 65, Line 1 that "it is not clear whether the Companies will achieve, or credibly pursue, their net-zero commitment without explicit direction from regulators[,]" please state whether Mr. Fitch believes that the Companies' investments in research, like those mentioned on page 5 of the Companies' 2020 Climate Report to Shareholders, qualifies as a "credible pursuit" towards decarbonizing future generation sources?

ANSWER:

1-17. Referring to Mr. Fitch's testimony beginning at Page 66, Line 8 regarding the Sierra Club's January 2021 report comparing utility pledges to practices, please state whether Mr. Fitch has reviewed the report in its entirety and whether he identified any issues, deficiencies, or inaccuracies with the report's calculations, scoring system, or the criteria upon which the methodology was based.

ANSWER:

1-18. Referring to Mr. Fitch's testimony beginning at Page 70, Line 2 that "there is growing reason to be wary of reliance on carbon offsets[,]" please state whether Mr. Fitch believes that increased interest in carbon offsets from the marketplace will lead to innovation in and advanced standards for carbon offsets in the future?

ANSWER:

1-19. Referring to Mr. Fitch's testimony beginning at Page 89, Figure 4-7 entitled "Considerations for determining a discount rate[,] please state to which of the five time preference conditions listed in the Figure Mr. Fitch believes the IRP process belongs.

ANSWER:

Carbon Stranding: Climate Risk and Stranded Assets in Duke's Integrated Resources Plan (the "Carbon Stranding Report")

1-20. Referring to Page vi of the Carbon Stranding Report which states that "[i]f the Duke companies continue to operate their fleet as they have historically, the emissions trajectory of Duke Energy's operating companies in the Carolinas will be increasingly inconsistent with Duke Energy's corporate climate commitments[,] as well as Figure ES-3, please state:

- a. Whether, and if so why, Mr. Fitch believes that modeling based on the Companies' historical fleet operations is likely to accurately forecast its future operations;
- b. Whether Mr. Fitch considered that the renewable generation modeled in the Companies' IRP will offset carbon emissions of these plants in the future;
- c. The heat rate of new combined cycles and combustion turbines that Mr. Fitch used in this analysis;
- d. Why Mr. Fitch assumed a linear carbon trajectory path between 2020 and 2050 as the carbon stranding criteria;

- e. Why Mr. Fitch used a straight-line approach between 2020-2050 instead of between 2020-2030 and 2030-2050, representing the two explicitly stated reduction goals;
- f. Whether Mr. Fitch considered using the 2030 goal as applicable to 2030-2049 and the 2050 goal as applicable for all years 2050 and forward as the carbon constraint criteria for stranding assets; and
- g. What is the basis for Mr. Fitch's decision to use straight line decarbonization.

ANSWER:

1-21. Referring to Page vii, Figure ES-4, entitled "Annual Carbon Stranding Costs, 2020-2075[.]" of the Carbon Stranding Report, state whether Mr. Fitch calculated what the potential future stranded costs identified in this Figure would cost a customer on an average customer bill impact basis.

ANSWER:

1-22. Referring to Page 35 of the Carbon Stranding Report, which states that the "Earliest Practicable Coal Retirements does not include a carbon policy[.]" please provide the source citation for this claim.

ANSWER:

1-23. Referring to Page 45 of the Carbon Stranding Report, which states that "the asset's value depreciates over its 40-year lifetime until a planned retirement year of

2075[,]” please state the basis for Mr. Fitch’s assumption of a 40-year depreciable life for new gas assets.

ANSWER:

1-24. Referring to Page 49 of the Carbon Stranding Report, which states that “[t]he myriad other costs that would also be incurred in this scenario . . . are not included[,]” please describe in detail the costs Mr. Fitch contends would be incurred for the following:

- a. “[S]tranded transmission investments[;]”
- b. “[A]dditional operational costs as transitions occur years ahead of schedule[;]” and
- c. “Additional wear and tear on materials as the grid must reconfigure.”

ANSWER:

1-25. As provided in the instructions to these Interrogatories, if a privilege or objection as to any Interrogatory is claimed, identify with specificity the matter as to which the privilege or objection is claimed, the nature of the privilege or objection, and the legal and factual basis for each such claim, and provide a complete description of the information being withheld.

ANSWER:

REQUESTS FOR PRODUCTION

1-1. Please produce any and all documents identified, referred to, or relied upon in preparing your response to Duke Energy's Second Set of Interrogatories to Vote Solar.

RESPONSE:

1-2. Referring to Mr. Fitch's testimony beginning at Page 54, Line 10 that "[t]he Companies have declined to pursue beneficial regional coordination strategies, such as joint capacity planning or regional coordination beyond an energy exchange market[,]" please provide any studies, reports, workpapers, or other documents Mr. Fitch prepared, reviewed, and/or relied upon in reaching this conclusion.

RESPONSE:

1-3. Referring to Mr. Fitch's testimony beginning at Page 55, Line 10 that "[t]he Companies are not able to procure firm capacity for resource adequacy purposes from each other, nor from their neighbors[,]" please provide any studies, reports, workpapers, or other documents Mr. Fitch prepared, reviewed, and/or relied upon in reaching this conclusion.

RESPONSE:

1-4. As provided the instructions to these Requests for Production, if a privilege or objection as to any Request is claimed, identify with specificity the matter as to which the privilege or objection is claimed, the nature of the privilege or objection, and the legal and factual basis for each such claim, and provide a complete description of the information or document being withheld.

RESPONSE:

Dated this 26th day of February 2021.

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